## Exploring the Development of a Clothing Prototype to Improve the Quality of Life Among Women Affected by Breast Cancer

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## **ABSTRACT**

Breast cancer is one of the leading cancers afflicting Malaysian women. Due to advancements in medical technology, various types of cancer treatment have now emerged. Despite cancer treatment resulting in greater success, the physical and psychological effects of the treatment have not diminished. These include physical changes, pain dimensions, as well as negative perceptions of self. The impact of these effects tends to reduce the patient's quality of life due to certain impediments as a result of the effects of treatment faced by patients during treatment and post-treatment. In the case of breast cancer survivors, one of the issues is to be able to put on and take off clothes without the help of others. In normal circumstances, clothing plays a role as a protector to the wearer. However, for women affected with breast cancer treatment, clothing is used to hide the impairment caused by the treatment they underwent. The purpose of the study was to explore attributes that could contribute to the development of clothing prototypes for women who are affected by breast cancer treatment. Qualitative case studies were used in this study. The study began with the use of a questionnaire that served as a basis for the construction of a semi-structured interview protocol. In addition, the use of technical drawings as probing material, and the construction of clothing design sketches were also utilised. The informants for this research were selected using a purposive sampling approach, where a homogeneous sample of ten (10) women who had received cancer treatment were the participants. The informants' age ranged from thirty (30) to sixty (60) years old and they were from several states in Malaysia, namely Melaka, Selangor, and Kuala Lumpur in Malaysia. The development of adaptive clothing was based on the Functional, Expressive and Aesthetic (FEA) consumer needs model and Universal Design Principles to accommodate the needs of those with disabilities. Thematic analysis was used to analyse the data in which four themes have been derived. The themes are types of design, fastening buttons, fabric, and fit. The ten breast cancer survivors had chosen the prototype that best fits the four themes. The prototype was successfully developed and adaptive, which serves as an extension to the existing clothing. The features of the prototype consist of buttons down on the front opening, suitable button width, and high-quality thermal fabric to absorb moisture and heat as well as to reduce friction at the treatment area. Although the use of adaptive clothing in Malaysia is still in its early stages, the need is not denied by those involved. All the features incorporated in the prototype can improve the quality of life because survivors become more confident and able to go on with life as usual. In conclusion, the concept of adaptive clothing might be extended to other treatment effects of other diseases. It can be regarded as a tool to allow survivors to be more independent and confident. This research serves to highlight the importance of developing adaptive clothing and adaptive products for people with disabilities as well as those facing the effects of medical treatment.

**Keywords:** adaptive clothing, breast cancer, prototype, qualitative research

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